

### REMARKS/ARGUMENTS

Applicant and his undersigned attorney wish to thank Examiner Sukman for the courtesy and cooperation he extended to them during the interview held 23 March 2005.

The Examiner suggested amendments to claim 1 which would tentatively make that claim allowable over the Johnson reference applied against claim 1 in the final rejection. Amendments to claim 1 substantially as suggested by the Examiner are proposed above.

The substance of the arguments made by applicant that led to this tentative decision are presented below, and Exhibit A showing the results of head-to-head, comparative testing between applicant's claimed device and a device as disclosed in Johnson is attached.

The cancellation of claims and the amendments proposed above will leave independent claim 1 and dependent claims 2, 14, 18, and 32 directed to the elected invention pending in the application, thus substantially reducing the number of elected claims from 14 to 5.

For the reasons discussed below, it is believed that independent claims 1 and dependent claims 2, 14, 18, and 32 with the amendments proposed above moot the formal rejections set forth in the Final Rejection and comply with the requirements of 35 U.S.C. 112. Specifically, applicant has above proposed to:

- (1) delete the term "organic" from claim 1;

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- (2) cancel the "support" language from claim 2;
- (3) cancel claim 12;
- (4) cancel claim 36.

With the amendments proposed above, claim 1 is believed to be clearly patentable over the Johnson reference applied in the final rejection.

This claim is directed and limited to a firearm accessory (recoil pad) which has an elastomeric pad and a vibration decay pattern modifier disposed in an aperture in the pad, with a space between an end of the decay pattern modifier and a corresponding end of the aperture. When the gun is fired, this space allows the decay pattern modifier to oscillate in the aperture in a manner which significantly reduces the magnitude of the vibrations transmitted to the recoil pad from the firearm and, also, significantly reduces the duration of the period in which vibrations of any appreciable magnitude are present. The result is a major decrease in the recoil experienced by the shooter.

In contrast, in the Johnson recoil pad (see FIG. 2), both ends of the components corresponding to applicant's decay pattern modifiers – helical compression springs 50 – are fixed in place by being seated in grooves 44 in stock plate 40 and grooves 54 in end plate 52 and attached to the stock plate and the end plate (lines 49-52, column 2). This makes the Johnson springs incapable of functioning in the manner specified in the amendments to claim 1 proposed above.

That the arrangement claimed by applicant is unexpectedly superior to the coil spring approach of Johnson has been confirmed by comparative testing.

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The results of representative Johnson versus claimed invention tests are shown graphically in the plot of Exhibit A which was discussed with the Examiner at the above referred to interview. In those tests, the peak magnitude of the transmitted vibrations was reduced approximately 53 percent by using elastomeric decay pattern modifiers disposed in elastomeric pad apertures as claimed by applicant instead of Johnson's helical coil springs fixed at both ends to stock and end plates. This reduction in the transmission of large magnitude gun discharge vibrations is very significant because it is those transient vibrations which are responsible for the discomfort and pain experienced, and injuries caused, when a firearm is discharged.

The protocol for the tests follows:

The Johnson recoil pad employed in the tests was as described in the patent and shown in FIG. 3 of the patent drawing except that plates 62 and 66 were made from an unfoamed, pliant Neoprene as was shoulder plate 70.

The Sims recoil pad was from a production run and was constructed as described in the text of the application and shown in FIGS. 2 and 3 of the application drawing.

The Johnson and Sims recoil pads were tested on the same Winchester Model 1300 12 gauge shotgun. The ammunition used was Federal Premium Magnum Turkey 12 gauge, 3 inch, 2 oz, #5 shot.

Measurements were taken with a Signalogic analog Sd 16 PCI card, a 12-channel PCB line conditioner and a PCB B11 accelerometer. Hyperception,

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Hypersignal – Acoustic Display Software, was used. The sample rate was 40,000 Hz.

The accelerometer was mounted in a drilled, 1.7 inch by 1.7 inch, aluminum test plate. The test plate was mounted to a flexible pad on a fixed mass, to simulate soft tissue over bone as in a shooter's shoulder. The test plate/flexible pad assembly was such that the plate could accelerate under the influence of recoil transmitted through the gun pad while meeting progressive resistance.

The high vibration magnitude dark trace in Exhibit A is composed of data collected from the test of the Johnson recoil pad; the low vibration magnitude light trace is composed of data collected from the companion test of the Sims recoil pad.

The remainder of the claims to the elected invention that will be present in the application upon the entry of the amendments proposed above - 2, 14, 18, and 32 – will all depend from claim 1 as amended. Those claims are therefore considered patentable for, inter alia, the same reasons as claim 1.

One of the amendments proposed to claim 18 calls for a recoil pad component with a sealed **and isolated** aperture for promoting the anti-recoil effectiveness of the claimed recoil pad. The term isolated is being proposed in view of the Examiner's statement that the current term – sealed – does not mean "completely sealed". It is believed that "sealed and isolated" does mean completely sealed and therefore additionally and patentably distinguishes applicant's invention as defined in claim 18 from Johnson's device with its

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network of unsealed or open air channels 43 and 44. Support for the added language appears in lines 21 and 22, page 10 of the text.

With the amendments proposed above, claims 15, 17, 22, 23, and 25 will also depend from claim 1. Those claims were held in the final rejection to be directed to non-elected inventions. It is respectfully submitted that those claims should also be allowed in this application as they will depend from a generic claim which applicant believes to be allowable.

For the reasons discussed above, it is deemed that the amendments proposed herein will place this application in condition for allowance. It is therefore respectfully urged that those amendments should be entered and the application passed to issue.

Applicant requests that, if the amendments proposed above are not deemed to place this application in condition for allowance, they be entered for purposes of appeal. This action is considered proper because entry of those amendments will materially simplify the appeal by, at a minimum: (1) materially reducing the number of claims to be considered by the Board, and (2) eliminating

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the 35 U.S.C. §112-based rejections.

Signed at Shelton, County of Mason, State of Washington, this 31<sup>st</sup> day of  
March, 2005.

Respectfully submitted,

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